



## ABSTRACT

This invention relates generally to compositions and articles of manufacturing comprising single-wall carbon nanotubes (SWNTs). Tubular single-wall carbon nanotube molecules are useful for making electrical connectors for devices such as integrated circuits or semiconductor chips used in computers because of the high electrical conductivity and small size of the carbon molecule. SWNT molecules are also useful as components of electrical devices where quantum effects dominate at room temperatures, for example, resonant tunneling diodes. The metallic carbon molecules are useful as antennas at optical frequencies, and as probes for scanning probe microscopy such as are used in scanning tunneling microscopes (STM) and atomic force microscopes (AFM). Tubular carbon molecules may also be used in RF shielding applications, e.g., to make microwave absorbing materials.